ARGUMENTS/ REMARKS

Favorable reconsideration of this application, as presently amended and in view of the following discussion, is respectfully requested.

Claims 1-13 and 15-34 are pending in the present application. Claim 14 is canceled, Claims 1, 2, 5, 7, 10-13 and 15-17 are amended, and Claims 18-34 are added by the present amendment.

In the outstanding Office Action, Claims 1 and 14 rejected under 35 U.S.C. § 102(e) as anticipated over U.S. Patent No. 6,631,394 to Ronkka; and Claims 2-13 and 15-17 were rejected under 35 U.S.C. § 103(a) as unpatentable over Ronkka.

Initially, Applicant and Applicant's representative gratefully acknowledge the courtesy of a personal interview with Examiner Bullock on February 15, 2006. During the interview, differences between the invention and the reference in the outstanding Office Action were discussed. Further, the Examiner suggested clarifying amendments to the independent claims to more clearly define the claims over the reference in the outstanding Office Action. Comments and amendments discussed during the interview are reiterated below.

Applicant respectfully traverses the rejections of Claims 1-17 under 35 U.S.C. §§ 102(e) and 103(a) as anticipated by or unpatentable over Ronkka, with respect to the amended independent claims.

Amended Claim 1 is directed to a processor power-saving control method which employs a plurality of operating systems (OSs) whose execution is controlled by a processor. The method includes, in part, removing a secondary OS from a power-saving mode in response to receiving an interrupt from a primary OS when the primary OS determines there exists any task scheduled to be executed on the secondary OS. Similarly, amended Claims 2,

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10 and 11 include, in part, placing an operation of the processor in a power-saving mode when there exists no task scheduled to be executed.

In a non-limiting example, Applicant's Figures 2 and 3 show a processor power saving control method in a system having two operating systems, primary OS 1 and secondary OS 8. In this example, power saving mechanism 6 sends a sleep signal to place the processor 2 into a power-saving mode when the primary OS 1 determines that there is no task scheduled to be executed. Further, the processor 2 may be shifted out of a power saving mode, for example as in step S138, when it is determined that there is any task scheduled to be execute, as in step S136.

As described in the specification, the sleep mode may shift the processor to a power saving mode by "stopping supply of clocks to the processor or reducing the frequency level of the clocks during idle time, that is, when there exists no task to be executed by the processor."[1] Thus, the claimed arrangement advantageously allows a further reduction in power dissipation by the single processor.

As discussed during the interview, Ronkka does not teach or suggest each of the features of the amended independent claims. For example, Ronkka fails to teach or suggest any apparatus or step to determine whether or not there exists any task scheduled to be executed on an operating system. Further, Ronkka fails to teach or suggest any apparatus or step to place a processor into a power-saving mode, such as a sleep mode or a reduced clock frequency mode, when there exists no task scheduled to be executed.

Ronkka describes an embedded system having multiple operating systems that are advantageously executed using only a single processor to thereby reduce power consumption. However, Ronkka does not teach or suggest the claimed methods of further reducing power in the single processor, and in particular, Ronkka does not discuss any method or device

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[1] Specification at page 2, lines 1-5.

configured to place the processor into a power-saving mode when there exists no task

scheduled to be executed. <u>Ronkka</u> indicates that

> if the respective interrupt handling requires the execution of the first operating system OS_A, the interrupt handler sets information of this to the scheduler SCH_A of the first operating system. If the interrupt handling requires the execution of the threads of the second operating system OS_B, the interrupt handler forms a delayed service routine DSR to be carried out after the execution of the threads of the first operating system OS_A...in some situations, it is also possible that the interrupt handler sets this data to the scheduler SCH_B of the second operating system without delayed service routines DSR being used.[2]

In other words, as discussed during the interview, <u>Ronkka</u> indicates that upon

receiving an interrupt for OS_A (e.g., a primary OS) or OS_B (e.g., a secondary OS) that the

interrupt handler "sets information of this to the scheduler" or in other words the interrupt

handler *causes* a task to be scheduled on the appropriate operating system based on the

received interrupt. However, <u>Ronkka</u> does not indicate any step of determining if there

already exists a task scheduled to be executed. Further, <u>Ronkka</u> fails to teach or suggest any

apparatus or step of placing a processor in a power-saving mode when there is no task

scheduled to be executed, and <u>Ronkka</u> fails to teach or suggest any apparatus or step of

removing a processor from a power-saving mode where there is a task scheduled to be

executed. Accordingly, Applicant respectfully submits that <u>Ronkka</u> fails to teach or suggest

determining whether "there exists any task scheduled to be executed," as recited in Claim 1,

and fails to teach or suggest determining when "there is no task scheduled to be executed," as

recited in Claim 10 and as similarly recited in Claim 11. Further, <u>Ronkka</u> fails to teach or

suggest "removing the secondary OS from the power-saving mode," as recited in Claim 1,

and fails to teach or suggest "placing said processor in the power-saving mode when there is

no task scheduled to be executed," as recited in Claims 10 and 11.

Accordingly, Applicant respectfully submits that independent Claims 1, 2, 10 and 11,
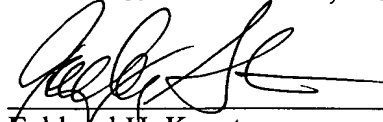
and claims depending therefrom, are allowable.

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[2] <u>Ronkka</u> at col. 17, lines 2-19.

In view of the foregoing discussion, no further issues are believed to be outstanding in

the present application. Therefore, Applicant respectfully requests that this application be

allowed and be passed to issue.

Respectfully submitted,

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